

COMPOSITE GOLF CLUB HEAD

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention is related to a golf club, and more particular to a golf club head which includes a strike plate made of light-weight alloy with high strength and a cover made of a fiber prepreg material (pre-impregnated material) assembled together.

2. Description of Related Art

Conventional golf club heads generally have two types of structure and manufacturing methods. The first type of golf club head, made up of a metal material, is integrally formed, or is composed of multiple forged members welded together. The other type of golf club head, made up of composite materials, is composed of a molded body including a strike plate, a neck and a bottom plate, and a fiber upper cover assembled on the body.

However, the conventional golf club heads have some shortcomings, such as being time-consuming to manufacture, difficult to balance the gravity center, and having small sweet spots.

Therefore, the invention provides a composite golf club head to mitigate and/or obviate the aforementioned problems.

SUMMARY OF THE INVENTION

The main objective of the present invention is to provide a composite golf club head which has an increased sweet spot area on a strike plate and is easy to manufacture.

Other objectives, advantages and novel features of the invention will

1 become more apparent from the following detailed description when taken in
2 conjunction with the accompanying drawings.

3 BRIEF DESCRIPTION OF THE DRAWINGS

4 Fig. 1 is a front view of a golf club head in accordance with the
5 invention;

6 Fig. 2 is an exploded side view of the golf club head in Fig. 1;

7 Fig. 3 is a side sectional view of the golf club head in a status that a cover
8 has not been assembled;

9 Fig. 4 is a side view sectional of the golf club head in the assembling
10 process; and

11 Fig. 5 is a side view sectional of the assembled golf club head.

12 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

13 Referring to Figs. 1-3, the golf club head in accordance with the
14 invention has a strike plate (10) and a neck (11) formed at an end of the strike
15 plate (10). A rear portion (12) is formed at an upper side of the strike plate (10)
16 and extends backwards. The strike plate (10) can be integrally formed with the
17 neck (11) and the rear portion (12). Alternatively, the strike plate (10) also can be
18 made as a sandwich structure being composed of a titanium plate, a titanium
19 fiber prepreg material and a carbon fiber prepreg material adhered together, and
20 then the strike plate (10) is embedded between the neck (11) and the rear portion
21 (12).

22 An inner plate (21), made up of multiple layers of fiber prepreg material,
23 is adhered on an interior surface of the strike plate (10) by a first of two adhesive
24 sheets (34). A cover (22), also made up of multiple layers of fiber prepreg

1 material, is adhered to the back of the rear portion (12) by the second adhesive
2 sheet (34) to form a back housing (20) at the rear side of the strike plate (10). The
3 fiber prepreg material can be carbon fiber, glass fiber, Kevlar™ fiber, boron fiber,
4 titanium fiber, copper fiber, aluminum fiber, etc. impregnated with resin
5 previously.

6 A bottom plate (30), made up of a metal material, is adhered to a bottom
7 portion of the strike plate (10) and the cover (22) by the adhesive sheets (34) to
8 close the head. A seat (31) is formed inside the bottom plate (30) and a hole (32)
9 is defined through the seat (31).

10 Referring to Figs. 4-5, during the manufacturing process, an air cell (40)
11 is received in the golf head through the hole (32) and has a nozzle (not numbered)
12 provided outside the golf head. Then, the golf head is positioned in a hot-press
13 molding device (50) for heating and pressing the golf head. At the same time, air
14 is pumped into the air cell (40) through the nozzle and the adhesive sheets (34)
15 are pressed to tightly abut the inside wall of the golf head. Thus, there is no gap at
16 joints between the strike plate (10), the back housing (20), and the bottom plate
17 (30).

18 Afterwards, the air cell (40) is removed through the hole (32) from the
19 golf head, and a balance member (33) can be engaged in the hole (32) to adjust a
20 center of gravity of the golf head.

21 Therefore, because the strike plate (10) is made up of a light-weight
22 alloy, an area of the strike plate (10) can be increased moderately to enlarge the
23 sweet spot. Furthermore, the fiber prepreg material is easy to be molded and can
24 be securely attached to the interior surface of the strike plate (10). Further still, it

1 is also simple to balance the gravity center, so that it is convenient to
2 manufacture the golf head, and a user can easily handle the golf head.

3 It is to be understood, however, that even though numerous
4 characteristics and advantages of the present invention have been set forth in the
5 foregoing description, together with details of the structure and function of the
6 invention, the disclosure is illustrative only, and changes may be made in detail,
7 especially in matters of shape, size, and arrangement of parts within the
8 principles of the invention to the full extent indicated by the broad general
9 meaning of the terms in which the appended claims are expressed.